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Patent Search

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Inventor

Name	Address	Country
Dr. D. Govardhan	Institute of Aeronautical Engineering, Dundigal, Hyderabad - 500 043, Telangana, India.	India
Dr. D. Ramana Reddy	Viswam Engineering College, Madanapalle-517325, Annamayya District, Andhra Pradesh, India	India
Mr. Jaganmohanrao Tarra	Aditya Institute of Technology and Management, Tekkali, K Kotturu, Andhra Pradesh 532201	India
Mrs. Swathi Karike	Nalla Narasimha Reddy Education Society's Group of Institutions -Integrated campus, Korremula X Road, Chowdariguda, Medchal Malkajgiri Dist. Telangana, India.	India
Dr. Kamaljyoti Talukdar	Bineswar Brahma Engineering College Bijuleebari,P.O: Chandrapara Kokrajhar, Assam PIN-783370 (India)	India
Mr. Vijaya Krishna Rayi	GMR Institute of Technology, Rajam, Andhra Pradesh-532127	India
Dr. Baswaraj S Allurkar	M. B. E. Society's, College of Engineering, Ambajogai. Dt: Beed (M.S) - 431517	India
Mr. Polisetty Harish	Jawaharlal Nehru Technology University, Kakinada, Andhra Pradesh-533003	India

Applicant

Name	Address	Country
Dr. D. Govardhan	Institute of Aeronautical Engineering, Dundigal, Hyderabad - 500 043, Telangana, India.	India
Dr. D. Ramana Reddy	Viswam Engineering College, Madanapalle-517325, Annamayya District, Andhra Pradesh, India	India
Mr. Jaganmohanrao Tarra	Aditya Institute of Technology and Management, Tekkali, K Kotturu, Andhra Pradesh 532201	India
Mrs. Swathi Karike	Nalla Narasimha Reddy Education Society's Group of Institutions -Integrated campus, Korremula X Road, Chowdariguda, Medchal Malkajgiri Dist. Telangana, India.	India
Dr. Kamaljyoti Talukdar	Bineswar Brahma Engineering College Bijuleebari,P.O: Chandrapara Kokrajhar, Assam PIN-783370 (India)	India
Mr. Vijaya Krishna Rayi	GMR Institute of Technology, Rajam, Andhra Pradesh-532127	India
Dr. Baswaraj S Allurkar	M. B. E. Society's, College of Engineering, Ambajogai. Dt: Beed (M.S) - 431517	India
Mr. Polisetty Harish	Jawaharlal Nehru Technology University, Kakinada, Andhra Pradesh-533003	India

Abstract:

The solar powered E-bike, Since the fuel prices not only in India but throughout the world increasing day by day thus there is a tremendous need to search for an alternative to conserve these natural resources. Thus, a solar E-bike is an electric vehicle that provides that alternative by harnessing solar energy to charge the battery and thus provide the required voltage to run the motor. Since India is blessed with the nine months of sunny climate thus concept of solar E-bike is very friendly in India. Hybrid cycle combines solar energy as well as the dynamo that runs through pedal to charge the battery to run the E-bike. Thus, solar hybrid E-bike can become a vital alternative to the automobile thus its manufacturing is essential.

Complete Specification

Description: The "solar" has evolved from actual hardware to an indirect accounting system. The same system also works for electric motorcycles, which were also developed for the Tour de Sol. This is rapidly becoming an era of solar production. (Fig.4 & Fig.5) With today's high performance solar cells, a front and rear PV panel solar bike can give sufficient assistance, where the range is not limited by batteries. The Venturi Astro lab in 2006 was hailed as the world's first commercial electro-solar hybrid car, and it was originally due to be released in January 2008. In May 2007 a partnership of Canadian companies led by Hy motion altered Prius to use solar cells to generate up to 240 watts of electrical power in full sunshine.

Efficiency

Although it is important to have an efficient solar cell, it is not necessarily the efficient solar cell that consumers will use. It is important to have efficient solar cells that provide the best value for money. Efficiency of PV cells can be measured by calculating how much they can convert sunlight into usable energy for human consumption. The maximum efficiency of a solar photovoltaic cell is given by the following equation:

$$\eta(\text{maximum efficiency}) = \frac{P(\text{maximum power output})}{(E(S) \cdot A_c) \cdot A_c} \cdot A_c$$

If the area provided is limited, efficiency of the PV cell is important to achieve the desired power output over a limited area. The most efficient solar cell so far is a multi-junction concentrator solar cell with an efficiency of 43.5% produced by Solar Junction in April 2011. The highest efficiencies achieved without concentration include First Solar Corporation at 35.8% using a proprietary triple-junction manufacturing technology in 2009, and Boeing Spectro lab (40.7% also using a triple-layer design). The US company Sun Power produces cells that have an energy conversion ratio of 19.5%, well above the market average of 12–18%.

There have been numerous attempts to cut down the costs of PV cells and modules to the point that will be both competitive and efficient. This can be achieved by

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